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Photometric Test Report

Relevant Standards
IES LM-79-2008
ANSI C82.77-2002

Prepared For
Precision Architectural Lighting

Fred Compton
4830 Timber Creek Dr
Houston, TX 77017-5950

Catalog Number
ML3WW-MO-K40-4-XX-XX-UNV

Order Number
10675789
Test Number
904972

Test Date

2015-02-09

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Table of Contents

Summary of Results	Page 3
Integrating Sphere Results	Page 4
Distribution Results	Page 5
Conditions / Summary of Results / Polar Plot / Zonal / Luminance	Page 5
Candela Tabulation	Page 6
Coefficients of Utilization	Page 7

Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the 4π geometry method.
Absorption correction was employed for Sphere measurement



Luminaire Description: Cast aluminum housing, frosted plastic lens enclosure
Lamp: 120 white LEDs
Mounting: Surface
Ballast/Driver: One Osram Optotronic OT30W/PRG1050C/UNV/DIM/L

Luminaire



Luminaire Characteristics

Luminous Length: 2.00 in.
Luminous Width: 46.50 in.
Luminous Height: 0.50 in.

Summary of Results

Integrating Sphere

Total Output: 1658 Lumens
Efficacy: 66.8 lm/w
CCT: 3993 K
CRI (Ra): 82.3

Distribution

Total Output: 1596 Lumens
Efficacy: 64.3 lm/w
Maximum Candela: 919.4 Candela

Electrical Data at 120 VAC

Test Temperature: 24.9 °C
Voltage: 120.0 VAC
Current: 0.2078 A
Power: 24.82 W
Power Factor: 0.995
Frequency: 60 Hz
Current THD: 5.75 %



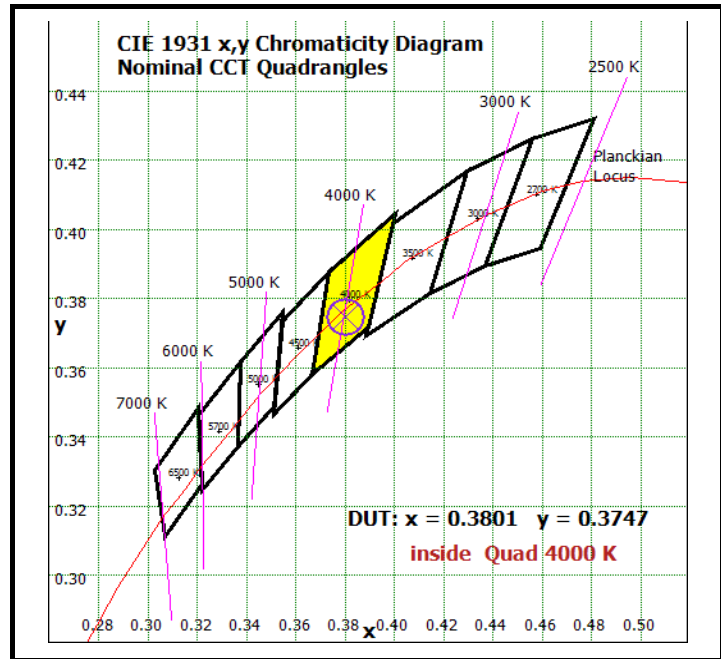
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	120.0 VAC	0.2078 A	24.82 W	0.995	60 Hz	5.75 %

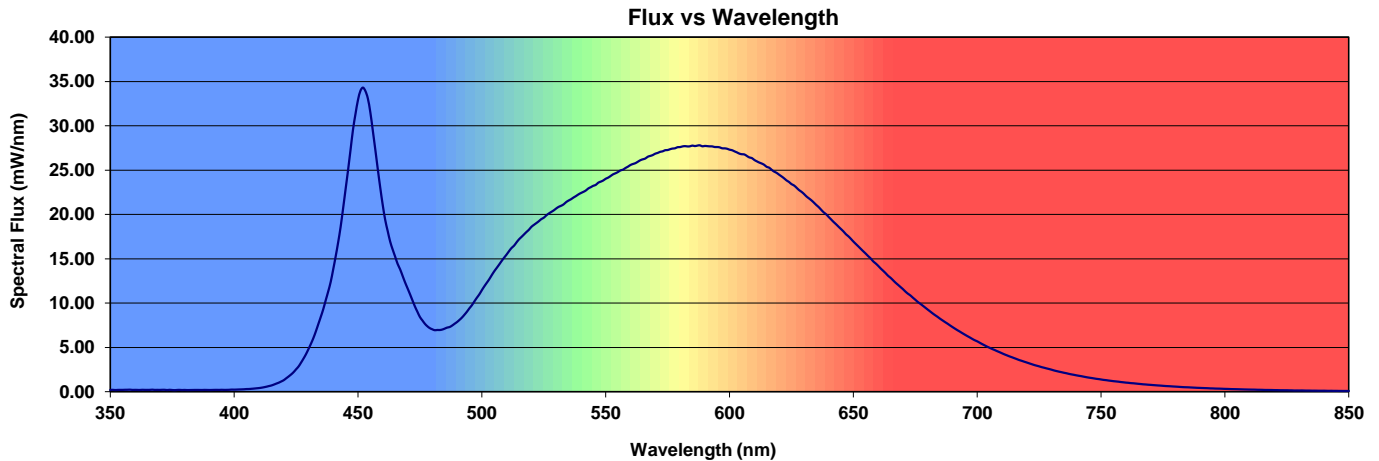
Summary of Results

Luminous Flux:	1658 Lumens
Efficacy:	66.8 lm/w
CCT:	3993 K
CRI (Ra):	82.3
CRI (R9):	19.2
Chromaticity (x):	0.3801
Chromaticity (y):	0.3747
Chromaticity (u):	0.2257
Chromaticity (v):	0.3337
Chromaticity (u')	0.2257
Chromaticity (v')	0.5006
Duv:	-0.0009



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82.3	80.9	87.5	91.3	81.0	80.1	81.2	87.6	69.1	19.2	69.1	78.2	56.1	82.2	95.0





Distribution - Goniophotometer

Distribution Test Conditions

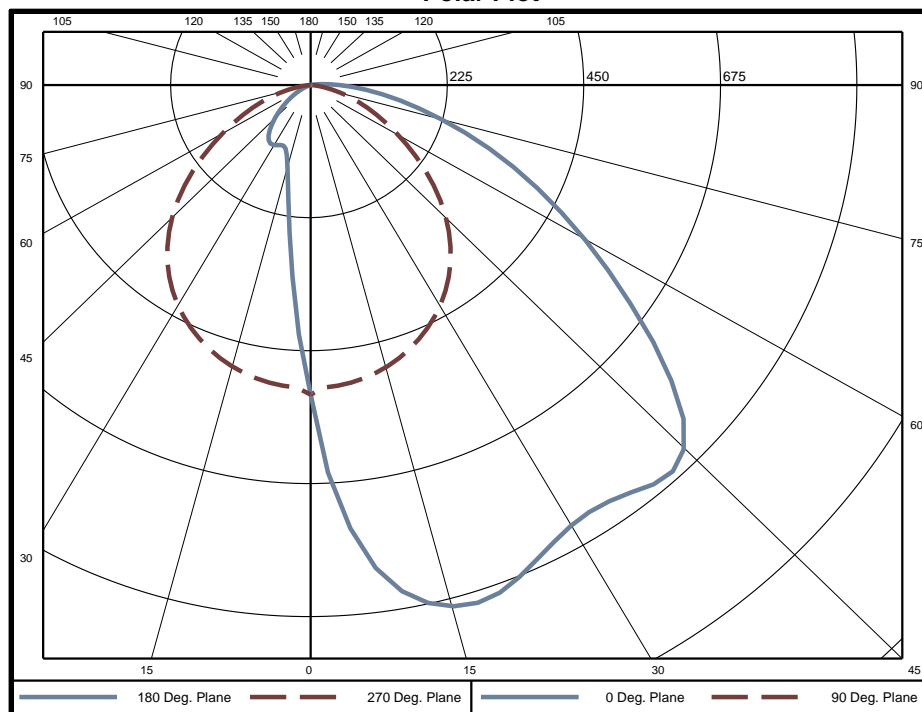
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.1 °C	120.0 VAC	0.2077 A	24.82 W	0.996	60 Hz	5.57 %

Summary of Results

Spacing Criteria
 0-180: 1.20
 90-270: 1.21

Total Lumen Output: 1596 Lumens
Luminaire Efficacy: 64.3 lm/w
Maximum Candela: 919 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	13.3	0.8%	60-65	101.4	6.4%	120-125	0.0	0.0%
5-10	37.5	2.3%	65-70	77.1	4.8%	125-130	0.0	0.0%
10-15	61.5	3.9%	70-75	55.0	3.4%	130-135	0.0	0.0%
15-20	83.8	5.3%	75-80	36.4	2.3%	135-140	0.0	0.0%
20-25	103.5	6.5%	80-85	21.6	1.4%	140-145	0.0	0.0%
25-30	120.6	7.6%	85-90	10.9	0.7%	145-150	0.0	0.0%
30-35	135.2	8.5%	90-95	4.2	0.3%	150-155	0.0	0.0%
35-40	147.6	9.2%	95-100	1.0	0.1%	155-160	0.0	0.0%
40-45	156.4	9.8%	100-105	0.1	0.0%	160-165	0.0	0.0%
45-50	157.1	9.8%	105-110	0.0	0.0%	165-170	0.0	0.0%
50-55	146.0	9.1%	110-115	0.0	0.0%	170-175	0.0	0.0%
55-60	125.6	7.9%	115-120	0.0	0.0%	175-180	0.0	0.0%

Zone	Lumens	% of Luminaire
0-40	703.0	44.1%
0-60	1288.0	80.7%
0-90	1590.4	99.7%
90-180	5.3	0.3%



Candela Tabulation
Horizontal Angle (Degrees)

	0	22.5	45	67.5	90	113	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524	524
5	754	732	684	609	511	431	366	330	326	330	366	431	511	609	684	732
10	871	848	795	683	504	351	254	210	200	210	254	351	504	683	795	848
15	914	896	852	734	492	284	184	148	140	148	184	284	492	734	852	896
20	915	904	869	761	476	233	143	119	115	119	143	233	476	761	869	904
25	886	879	859	767	454	193	122	112	112	112	122	193	454	767	859	879
30	862	849	829	756	428	163	115	116	117	116	115	163	428	756	829	849
35	861	834	791	727	396	143	114	115	114	115	114	143	396	727	791	834
40	883	839	760	683	358	130	108	102	99	102	108	130	358	683	760	839
45	873	834	735	623	314	118	94	83	79	83	94	118	314	623	735	834
50	779	762	691	551	264	103	77	62	58	62	77	103	264	551	691	762
55	646	640	597	458	212	87	58	44	39	44	58	87	212	458	597	640
60	524	515	474	353	163	69	41	28	24	28	41	69	163	353	474	515
65	414	401	354	253	120	51	25	15	12	15	25	51	120	253	354	401
70	314	297	252	174	84	32	12	6	5	6	12	32	84	174	252	297
75	223	209	171	114	51	15	4	2	1	2	4	15	51	114	171	209
80	150	139	109	66	24	5	1	0	0	0	1	5	24	66	109	139
85	92	83	60	29	7	0	0	0	0	0	0	0	7	29	60	83
90	47	41	25	8	0	0	0	0	0	0	0	0	0	8	25	41
95	18	14	6	0	0	0	0	0	0	0	0	0	0	0	6	14
100	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

	0	45	90
45	16460	14630	7313
55	13830	13730	6066
65	10640	10000	4639
75	7440	6527	3181
85	4549	3685	1169



Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																	
0	1899	1899	1899	1899	1854	1854	1854	1854	1771	1771	1771	1694	1694	1694	1624	1624	1624	1591
1	1737	1662	1594	1533	1693	1625	1563	1508	1556	1506	1459	1493	1452	1414	1435	1402	1371	1337
2	1581	1451	1343	1252	1539	1420	1321	1236	1363	1279	1207	1310	1240	1178	1261	1203	1151	1117
3	1441	1274	1144	1041	1401	1248	1128	1031	1200	1097	1012	1155	1067	994	1114	1039	976	941
4	1319	1127	987	880	1281	1106	975	874	1065	951	861	1027	929	849	992	907	837	802
5	1211	1006	862	756	1177	987	852	751	953	834	743	921	816	734	891	799	726	691
6	1117	904	760	658	1086	888	753	654	859	738	648	831	724	642	805	710	636	602
7	1034	817	677	579	1006	804	671	576	779	659	571	755	647	567	733	636	562	530
8	961	744	608	514	936	733	603	512	711	593	509	691	584	505	672	574	502	471
9	897	682	550	461	874	672	546	459	653	538	457	636	530	454	619	522	451	422
10	840	628	501	416	819	619	497	415	603	491	413	588	484	411	573	478	409	381

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	32.8	5.34
6.00	14.6	8.01
8.00	8.19	10.7
10.0	5.24	13.3
12.0	3.64	16.0
14.0	2.67	18.7
16.0	2.05	21.4

Cone of Light Plot

